1. Evaluate the limit below, if possible.

$$\lim_{x\to 8} \frac{\sqrt{7x-7}-7}{4x-32}$$

A. 0.071

B. ∞

C. 0.661

D. 0.018

E. None of the above

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2. Based on the information below, which of the following statements is always true?

As x approaches 7, $f(x)$ approaches ∞.

A. $f(x)$ is close to or exactly ∞ when x is large enough.

B. x is undefined when $f(x)$ is close to or exactly ∞.

C. $f(x)$ is undefined when x is close to or exactly 7.

D. $f(x)$ is close to or exactly 7 when x is large enough.

E. None of the above are always true.

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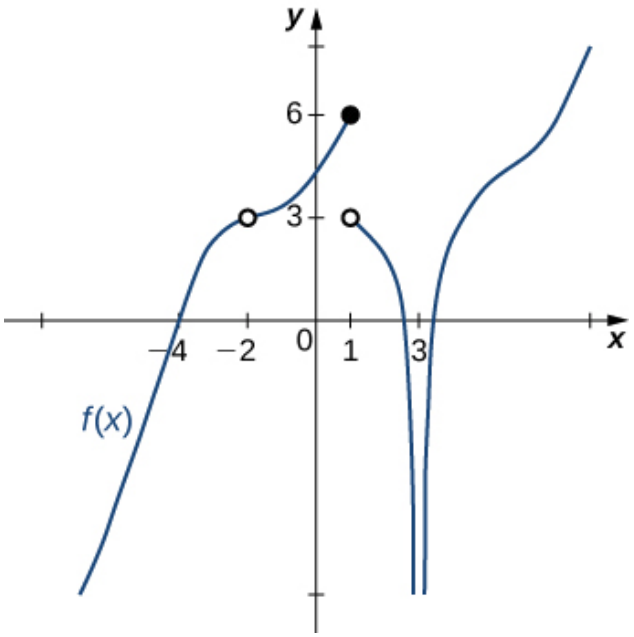
3. For the graph below, find the value(s) a that makes the statement true: $\lim_{x\to a} f(x) = -\infty$.



A. $-\infty$

B. -2

C. 3

D. Multiple a make the statement true.

E. No a make the statement true.

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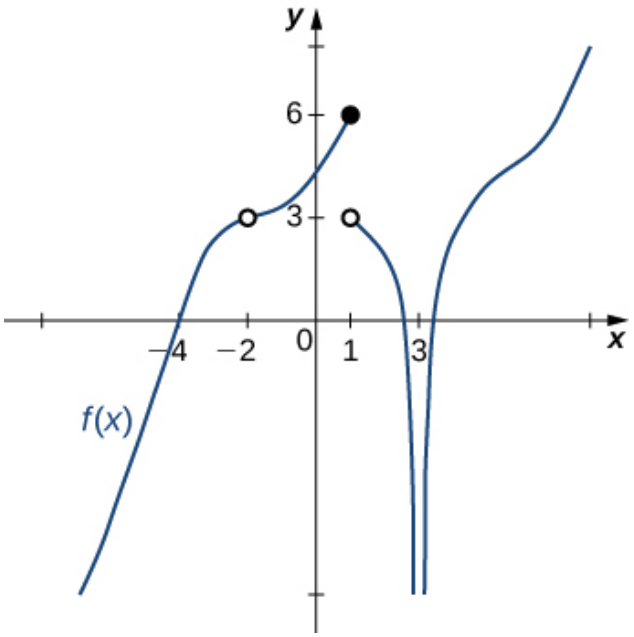
4. For the graph below, find the value(s) a that makes the statement true: $\lim_{x \to a} f(x) = -\infty$.



A. -2

B. $-\infty$

C. 3

D. Multiple a make the statement true.

E. No a make the statement true.

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5. Evaluate the one-sided limit of the function $f(x)$ below, if possible.

$$\lim_{x \to 8^-} \frac{-5}{(x+8)^8} + 2$$

A. ∞

B. $f(8)$

C. $-\infty$

D. The limit does not exist

E. None of the above

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6. Evaluate the one-sided limit of the function $f(x)$ below, if possible.

$$\lim_{x \to 6^+} \frac{1}{(x+6)^4} + 7$$

A. $f(6)$

B. $-\infty$

C. ∞

D. The limit does not exist

E. None of the above

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7. To estimate the one-sided limit of the function below as x approaches 1 from the left, which of the following sets of numbers should you use?

$$\frac{\frac{1}{x} - 1}{x - 1}$$

A. $\{1.0000, 1.1000, 1.0100, 1.0010\}$

B. $\{0.9000, 0.9900, 1.0100, 1.1000\}$

C. $\{0.9000, 0.9900, 0.9990, 0.9999\}$

D. $\{1.0000, 0.9000, 0.9900, 0.9990\}$

E. $\{1.1000, 1.0100, 1.0010, 1.0001\}$

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8. Based on the information below, which of the following statements is always true?

$$f(x) \textit{ approaches } 17.817 \textit{ as } x \textit{ approaches } 6.$$

A. $f(6)$ is close to or exactly 17

B. $f(17) = 6$

C. $f(6) = 17$

D. $f(17)$ is close to or exactly 6

E. None of the above

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9. To estimate the one-sided limit of the function below as x approaches 5 from the right, which of the following sets of numbers should you use?

$$\frac{\frac{5}{x} - 1}{x - 5}$$

A. $\{5.0000, 5.1000, 5.0100, 5.0010\}$

B. $\{5.0000, 4.9000, 4.9900, 4.9990\}$

C. $\{4.9000, 4.9900, 5.0100, 5.1000\}$

D. $\{5.1000, 5.0100, 5.0010, 5.0001\}$

E. $\{4.9000, 4.9900, 4.9990, 4.9999\}$

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10. Evaluate the limit below, if possible.

$$\lim_{x \to 3} \frac{\sqrt{7x - 5} - 4}{6x - 18}$$

A. 0.021

B. 0.441

C. 0.125

D. ∞

E. None of the above
